

Cirrato Windows client changelog

This document describes changes made in releases of the Cirrato client for Windows.

The information pertaining to a release is typically structured in the following manner:

- Client release/version number.
- Date (in YYYY-MM-DD format) when the release was made available and/or when the changelog was finalized.
- Changes, listed with the following information:
 - Category (new Feature, stability/performance Enhancement, error Correction).
 - Brief description of the change, including new/changed settings or MSI properties.
 - Reference number: LRS' internal ticket item (*JIRA* or *TFS*) to which the change is related, included here for traceability. If the change is related to a support case, the relevant support ticket item (*CAS*, *ZD* or *OTRS*) is also included.

In sections covering older releases, these formats may vary for legacy reasons.

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1 Client releases

1.1 Client 23.0.4

Release date: 2021-06-24

Feature: If more than one .inf file exists in a driver, the client now automatically parses OS/architecture information from them and picks the correct file to use at queue installation. (JIRA #951, ZD #1355 #2657)

Enhancement: Modifications in redundancy print functionality for improved stability under heavy load. (JIRA #2204, CAS-49762-D4Z6P2)

Correction, command line: An issue made the command *cirrato.exe /cleanup -cacheddrivers* return an error message. (JIRA #664)

Correction: Resolved an issue that could result in incorrect log messages when connecting to printers using IPPS. (JIRA #1552)

Correction: Resolved an issue that could make redundancy print jobs not get deleted from the client file system. (Such files would be named *<UUID>.cirrato.2* and be located in the spool directory.) Affects clients from release 22.4.0. (JIRA #2253)

1.2 Client 23.0.3

Release date: 2021-01-22

Enhancement: Resolved a potential security issue in the Cirrato client service. (JIRA #2199)

1.3 Client 23.0.2

Release date: 2020-11-26

Enhancement: Client utility code for getting/setting printer information has been refactored for improved performance and stability. (JIRA #1945)

Enhancement: For ease of use the command *cirrato.exe /update* can be run with the parameter *-alllocal* as an alternative to *-allhooked*; their functionality is identical. (JIRA #2159)

Enhancement, *cirrato.exe*: Various messages shown in verbose mode improved. (JIRA #2155)

The command *cirrato.exe /migrate -unc -wait* (migrate UNC printers and return exit codes upon completion) would report the errors “no contact with server”, “unable to contact client service” and “migration not activated on server” as success (exit code 0). This issue affected clients from version 21.0.0. (JIRA #579)

Resolved a conversion issue that would trigger an exception if a ticket check was sent to the server with an empty ticket ID. (*JIRA #1827*)

A server-side correction of this issue is implemented in server release 24.0.2.

Resolved: Inventory print job data would be sent to the server twice, and therefore appear in two identical rows in the database. (*JIRA #1831*)

An issue could cause the client to crash if a driver .cab file was not accessible when trying to unpack it and install the driver. (*JIRA #1866*)

Corrected an error in the command help text for the property *replaceserveruuid*. (*JIRA #2160*)

A memory leak in the client service corrected. (*JIRA #2161*)

1.4 Client 23.0.1

Release date: 2020-08-24

Old software instance could make some virus detection tools report potential issues. (*JIRA #2129*)

1.5 Client 23.0.0

Release date: 2020-03-24

Note: Client 23.0.0 **requires** Cirrato server version 23.0.0 – it is not backwards compatible with older servers. If file encryption is enabled and handover is active, the handover point client also needs to be version 23.0.0.

Feature: SNMP traffic to/from printers now use SNMPv3 for additional security. (*JIRA #434*)

Feature: Implemented encryption of comm protocol through full client/server and client/client communication chains. (*JIRA #1207, 1586*)

New registry settings / MSI properties: *CommunicationProtocolEncryptionMode* (default 0), *AESKeyLengthInBits* (default 128).

Feature: Improved spool file encryption. A symmetric ticket key is generated per job and stored on the server. Encrypted spool files are no longer decrypted during handover, instead clients and handover points use the ticket key. (*JIRA #1207, 1838*)

Correction, per-print authentication: If the *Authentication failed* dialog appears, clicking the *Cancel* button triggers the job to be deleted. Closing the dialog with the top-right 'X' did not. (*JIRA #1863*)

Correction: If authentication is required to print, the user could be prompted to authenticate twice. (*JIRA #1874*)

Correction: Resolved logging and unlock issues in the client port monitor. (*JIRA #1903*)

1.6 Client 22.5.0

Release date: 2019-11-12

Feature: Per-print authentication option implemented. When enabled, users authenticate before printing and the authentication is then valid for 1 print job. This can be used e.g. to implement “kiosk mode” on shared computers. (*JIRA #1859*)

New client registry settings / MSI properties: *RequestAuthentication* (default 0), *RequestPerPrintAuthentication* (default 0).

Note: The per-print authentication feature *requires* Cirrato server version 22.5.0.

Correction: Resolved issue with client memory leaks. (*JIRA #1627*)

1.7 Client 22.4.1

Release date: 2021-03-02

Note: These changes were also implemented in releases 23.0.3 (item #2199) and 23.0.0.

Enhancement: Resolved a potential security issue in the Cirrato client service. (*JIRA #2199*)

Correction: If authentication is required to print and the *Authentication failed* dialog appears, clicking the *Cancel* button triggers the job to be deleted. Closing the dialog with the top-right ‘X’ did not. (*JIRA #1863*)

Correction: If authentication is required to print, the user could be prompted to authenticate twice. (*JIRA #1874*)

1.8 Client 22.4.0

Release date: 2019-06-24

Feature: Client 22.4.0 supports Windows Server 2019.

Feature: Spooled print-ready files that are held on disk at the client and handover point(s), can now be set to be encrypted so they cannot be read if opened. (*JIRA #1364*)

New client registry setting / MSI property: *FileEncryptionEnabled* (default 0).

Feature: Support added for the new CirratoEmailPrint feature for printing from smartphones and tablets. (*JIRA #1529*)

Note: CirratoEmailPrint *requires* client 22.4.0 or later to be installed on the server.

Feature, CirratoPak: Configurations can now store printer attributes from the *Advanced* tab of Windows’ *Printer Properties* dialog, such as “Keep printed documents”. CirratoPak can now also be set to revert changes in users’ preferences, at login and/or after each print – previously it could only do this at login. (*JIRA #1662*)

Enhancement: Exception handling modified for increased client robustness against corrupt message data. (*JIRA #1408*)

Enhancement: Improved support for long (200+ characters) queue names. (JIRA #1718)

Correction: In CirratoSearch, if searching for printers when the Cirrato printing service was stopped, the displayed error message was incomplete. (JIRA #607)

Correction: An error in the *cirrato.exe* help text corrected. (JIRA #1548)

Correction, CirratoPak: Resolved an issue that made configuration files corrupt if the printer they were created from did *not* have an enabled separator page feature. (JIRA #1714)
This affected CirratoPak versions 2022.3.5 - 2022.3.7, distributed with clients 22.3.5 - 22.3.7. No CirratoPak version distributed with a Cirrato server has this issue.

1.9 Client 22.3.7

Release date: 2019-04-03

Correction: When running *cirrato.exe /inventory*, printer names were not written to the database. This error only affects clients version 22.3.6. (JIRA #1671)

Correction: Running *cirrato.exe /inventory* caused the client service (*cirratosrv*) to crash if there was more than one mapped UNC printer. Affects clients from ver. 22.0.0. (JIRA #1673)

1.10 Client 22.3.6

Release date: 2019-01-29

Correction: Modifications to resolve an issue that could cause a spool server crash during migration if UNC shared Xerox Direct Access printers were used. (JIRA #1641, CAS-35826-D8H9J2)

1.11 Client 22.3.5

Release date: 2019-01-03

Feature: Separator Page support added in configuration files created using *rundll* format (default format since server release 22.2.0). (JIRA #1542)

Note: This feature requires both the client and CirratoPak to be version 22.3.5 or later. CirratoPak v. 2022.3.5 is included with the client 22.3.5 installation package.

1.12 Client 22.3.4

Release date: 2018-10-30

Managed issue: On clients using bidirectional communication, Windows updates could cause the port monitor to be reset to the old, non-bidirectional Cirrato port monitor. (JIRA #1563)

1.13 Client 22.3.3

Release date: 2018-05-09

Correction: An error check issue could result in jobs getting printed multiple times, or a job staying in "processing" state until the printer was rebooted. (*JIRA #1426, ZD #3741 #3769 #3935 #3953 #3980*)

Correction: If a driver update was triggered but the driver file was missing on the server, the client would delete affected queues from the registry. Client no longer deletes queue registry entries in this situation. (*JIRA #1439*)

Note: Server-side correction of this issue made in server release 22.2.2.

Correction: Resolved issue in multi-server setups that caused installations of queues from non-default servers to fail. Issue has existed since client 22.0.0. (*JIRA #1463 ZD #3901*)

1.14 Client 22.3.2

Release date: 2018-01-31

Correction: Resolved an issue with RAW print protocol that could make printing using RAW fail on certain printers. The issue affected clients from version 22.0.0. (*JIRA #1246, ZD #3310 #3382 #3443*)

Correction: Resolved an issue in CirratoSearch that made the *Region/Location* column be displayed without a header text on 32-bit clients. (*JIRA #1324, ZD #3499 #3542*)

Correction: Resolved a character conversion issue that could cause the client service to crash when starting. (*JIRA #1328, ZD #3499 3558 #3561*)

1.15 Client 22.3.1

Release date: 2017-12-11

Correction: Resolved an issue that caused the client service to not start on client computers that had been upgraded to Windows 10 version 1709. (*JIRA #1290, ZD #3314 #3408 #3409 #3411 #3412 #3423*)

1.16 Client 22.3.0

Release date: 2017-12-04

Feature: Added logging if client start fails due to the port being in use. (*JIRA #1240*)

Enhancement, CirratoSearch: The header for the "location" search result column has been made configurable for improved clarity. New MSI property: *RegionLocationColumnHeader*. (*JIRA #589, ZD #690 #2827*)

Enhancement: Improvements on the handover functionality, preventing timing issues that could occur with large print jobs. (*JIRA #1157, ZD #2041 #2924 #3096 #3300*)

Correction: The client was not functional (the tray application crashed) on workstations using Windows XP. This issue affected clients from version 22.0.1. (*JIRA #1070, ZD #3054*)

Correction: Resolved issue that caused client IP to not be updated in the database if a client machine switched from wired to wireless network. (*JIRA #1288, ZD #3363*)

1.17 Client 22.2.1

Release date: 2017-10-20

PSworker.exe removed from the client software for added security. (*JIRA #1200, ZD #3236*)

1.18 Client 22.2.0

Release date: 2017-09-12

Feature: Added configurable delay in *Cirratoclient.exe* startup, to prevent synchronization issues in certain VDI setups. New MSI property: *DelayTrayIconStart* (default 0) (*JIRA #1077, ZD #3032*)

1.19 Client 22.1.1

Release date: 2017-08-11

Correction: Printing multiple copies by driver did not work when using the IPPS protocol, only one copy would be printed. (*JIRA #1011, ZD #3006*)

Correction: An issue caused all local print jobs to get the domain “NT AUTHORITY”. (*JIRA #1012*)

Correction: Resolved a port setting issue that made TCP/IP printers unable to print, if they had been hooked as local printers. (*JIRA #1014*)

1.20 Client 22.1.0

Release date: 2017-07-18

Feature: The driver option “Start printing immediately” is now a global client setting that can be saved as part of a printer configuration. New MSI property: *PrinterAttributeQueued*. 0 = “Start printing immediately” (default), 1 = “Start printing after last page is spooled”. (“Print directly to the printer” is not supported since it does not work with all drivers.) (*JIRA #982; ZD #2659, #2777*)

Correction: Auto-card registration jobs would not be printed if server IP was set incorrectly in

the Cirrato server registry. Fallback mechanism and additional logging added. (*JIRA #907*)

Correction: A logging issue made the client create log entries of some events that should be “warning” or “informational”, and instead log them as “error”. (*JIRA #911*)

1.21 Client 22.0.1

Release date: 2017-07-21

Correction: Resolved a compatibility issue that could cause clients to crash in older Citrix environments. (*JIRA #993, ZD #2881*)

1.22 Client 22.0.0

Release date: 2017-05-02

Note: Client 22.0.0 **requires** Cirrato server version 22.0.0 – it is not backwards compatible with older servers.

Feature: Added support of queue installation and printing using IPP and secure IPPS protocols. (*TFS #13053, #13817*)

Note: Requires an IPP capable Cirrato server.

Feature: Added dialogs to client MSI to allow setting the properties SERVERIP and SERVERUUID interactively during installation. (*JIRA #308*)

Correction: *Cirrato.exe /update* did not remove non-existing printers, even if it had been configured to do so. (*TFS #13588, ZD #1132 #1377*)

Note: Includes changes both in client and in server/database.

1.23 Client 21.7.2

Release date: 2018-05-09

Correction: If a driver update was triggered but the driver file was missing on the server, the client would delete affected queues from the registry. Client no longer deletes queue registry entries in this situation. (*JIRA #1439*)

Note: Server-side correction of this issue made in server release 22.2.2.

Note: Client 22.3.3 includes the same correction, but it is **not** included in any 22.* releases prior to version 22.3.3.

1.24 Client 21.7.1

Release date: 2017-12-12

Resolved issue that caused the client service to not start on computers that had been upgraded to Windows 10 version 1709. (*JIRA #1290, ZD #3314 #3408 #3409 #3411 #3412 #3423*)

Note: Resolves the same issue as client 22.3.1, but is based on client 21.7.0.

1.25 Client 21.7.0

Release date: 2017-03-30

Correction: Follow Print redundancy lists (lists of users' last used printers) were not loaded in a correct manner in Citrix environments.

New MSI property: *ShowOnlyUserQueuesInFpRedundancy* (default 0). If set to 1, disables loading of redundancy list from HKLM registry so users can only see their own individual lists from HKCU registry. (TFS #14016, ZD #2127 #2224)

Correction: Resolved client issue that caused domains used when printing to sometimes not be written correctly to the Cirrato database ticket log. Domain entries could end up empty or populated with random characters. (JIRA #336)

1.26 Client 21.6.0

Release date: 2017-03-22

Feature: Added possibility to toggle restrictions of user permissions on printer objects.

New MSI property: *RestrictNetworkPrinterRights* (default 1). By default, admin rights on Cirrato printers are removed from end-users. Users can still delete printers using CirratoSearch. If this property is set to 0, users can delete printers using Windows' *Devices and Printers* UI. Please **note** that this will also enable users to change driver or port on printers. (JIRA #270)

Feature: When an event is detected that will cause a client session to be created or refreshed, it is now logged to the event log. Such events include tray icon startup, the client leaving power save mode, or switching to WiFi. (TFS #13928)

Enhancement: Client will now always make a clean shutdown and log out sessions. (TFS #13501)

Correction: In multis-erver configurations, client IP updates were not sent to server (no session refresh) if a server was unreachable at *cirratoclient.exe* startup. (TFS #13501)

Correction: *Cirrato.exe /update* did not delete non-existing printers (queues that had been marked as deleted on the server) from the client, even if it had been configured to do so. (TFS #13588, ZD #1132 #1377)

Note: This correction includes database property changes in server release 22.0.0, meaning server 22.0.0 is **required** for this functionality to work with client 21.6.0.

1.27 Client 21.5.0

Release date: 2016-12-07

Correction: Server-to-client notification messages (such as error messages when printers are

offline) and calling the Cirrato *Self Service* web page from the client tray icon, did not work if using a load balancer for failover purposes. (TFS #13967)

1.28 Client 21.4.0

Release date: 2016-10-17

Feature: Added configurable timeout after which the client forces redundancy print if the job has not yet been printed. New MSI property: *ServerPrintTimeout*. (TFS #13644)

Enhancement: For compatibility with V4 drivers, the bidi port feature is now **only** enabled if the BIDIPORT MSI property is set to 1 at installation. Changing the *BIDIPort* registry value to 1 after installation will **not** enable the feature. (TFS #13656 #13614, ZD #1527)

Correction: Queue registry entries were not removed when queues were deleted. This is resolved, and leftover entries are removed when new queues are installed. (TFS #13598, ZD #1427)

Correction: An issue made a failed driver update on a client, cause the associated queue to stop working on that client. It would remain installed in Windows, but get removed from the Cirrato client registry and no longer be possible to print to. (TFS #13850)

1.29 Client 21.3.0

Release date: 2016-09-06

Feature: Number of retries made when trying to create a session is now configurable. New MSI property: *SessionCreationRetries*. (TFS #13657)

Correction: Redundancy log upload is no longer triggered by start of the tray icon. It is still triggered by client service start and other events. (TFS #13657)

1.30 Client 21.2.0

Release date: 2016-05

Enhancement: Printer Pools print job redirect notification: Fallback added in case the client is missing translations that will show the English version of the redirect notification message. (TFS #13278)

1.31 Client 21.1.0

Release date: 2016-04-22

Note: Client 21.1.0 **requires** Cirrato database version 20.2.5 or later.

Feature: SNMP community names are now applied to bidirectional port properties, meaning

bidirectional communication using SNMP is supported for printers using SNMP communities other than "public". (TFS #12894)

New server property in *tbl_property*, related to this client item: *ForcePublicSNMPCommunity* forces sending "public" as SNMP community to clients when installing queues (does not override SNMP delta read SNMP community or dptmon SNMP community). This can be used if the non-BIDI port is used and SNMP community should not be sent to the client.

1.32 Client 21.0.1

Release date: 2017-12-12

Resolved issue that caused the client service to not start on computers that had been upgraded to Windows 10 version 1709. (JIRA #1290, ZD #3314 #3408 #3409 #3411 #3412 #3423)

Note: Resolves the same issue as clients 22.3.1 and 21.7.1, but is based on client 21.0.0.

1.33 Client 21.0.0

Release date: 2016-03-18

Feature: Client now supports installations with multiple Cirrato servers. This includes new MSI properties, *cirrato.exe* commands, CirratoSearch server selector. (TFS #11204)

The following features are multi-server enabled in client release 21.0.0:

Print, handover, 3rd redundancy print, 3rd redundancy Follow Print, messages, CirratoSearch, *cirrato.exe/install*, self-service web (open from tray icon).

Other features are **not** multi-server enabled in client release 21.0.0

Feature: *Cirrato.exe -verbose* crash dump functionality added. (TFS #12822)

Enhancement: *TgEventLogger* modified. Previously, it read the server registry value *CirratoSrv\eventlog* to check if logging to event log was enabled or disabled. It now ignores the server setting and instead checks on the client, taking *TgEventLoggerType* as argument. (TFS #12776)

Correction: With certain drivers, a 20 second delay occurred when sending jobs to Follow Print queues if bidirectional communication was enabled on the client. (TFS #12339, ZD #337)

Correction (fixed in single server mode only): Changing *serverUUID* on a client caused any installed queues to trigger redundancy mode. (TFS #12763)

Correction: Resolved an issue with printing on local printers from the Modern/Metro UI of Windows 8 and Windows 10. (TFS #12918, ZD #827)

1.34 Client 20.2.3

Release date: 2015-12-18

Feature: New improved rundll configuration file format 3.0. (TFS #12711, ZD #582)

Note: Old version 2.0 configurations will no longer be applied; if attempted, the client will log an error message to the event log. Customers with ver. 2.0 configurations should query their database to find these and replace them, by uploading new configurations with the new CirratoPak using the */rundll* switch.

1.35 Client 20.2.2

Release date: 2015-10-20

Enhancement: Client now sends redundancy logs to server when resuming operation from power save mode, or when its IP address is changed. (TFS #12046, ZD #219)

Enhancement: “Backup/Restore Queues” feature modified to support use with roaming profiles. *ReinstallPrinter* now uninstalls queues that are not on the backup list before installing listed queues. (TFS #12170, ZD #193)

Correction: Bidirectional port clients (any version) are incompatible with hooking TCPMON printers as local printers; also affects hooking plotters using the Microsoft standard TCP/IP port. Resolved by making the bidirectional port monitor ignore Cirrato hooked printers. (TFS #11981)

Correction: Resolved an issue that caused jobs printed with redundancy printing to be logged with *logClientID* set to NULL. (TFS #12185, OTRS # 405564)

1.36 Client 20.2.1

Release date: 2015-08-18

Correction: If location path string cannot be matched, CirratoSearch can now be set to shut down instead of trying to match the path as far as possible. (TFS #11711, OTRS #406342)

Correction: Added support for Metro printing in Windows 8 / 8.1 / 10.

Note: For Metro printing support to work, printers that are already installed need to be reinstalled after upgrading the client. (TFS #11946)

Correction: Installing/upgrading a new client with bidirectional communication created the error event "Unable to initialize port migrator". This could result in ports not being migrated when upgrading the client; they would instead be migrated upon first reboot. (TFS #11982)

1.37 Client 20.2.0

Release date: 2015-07-03

Feature: Support for driver archive format 2.0 where the *.inf* file is not located in the root. Client now parses all *.inf* files in all subdirectories. (TFS #11501, OTRS #406288)

Feature: Client supports Windows 10 deployments. (TFS #11318)

Enhancement: Default LPR header reply timeout setting changed to 120 seconds, to reduce risk of timeouts when printers are slow sending LPR acks. (TFS #11106)

Correction: Fixed language issue on port monitor; upgrading to bidirectional port client with bidirectional port enabled, could result in migrated ports having SNMP status *Enabled*. This worked in languages where the port name "standard TCP/IP port" was written the same way as in English, not in languages where it was not. (TFS #11394)

Correction: Fixed issue affecting printer hardware configuration settings when queues were updated with bidirectional communication enabled. New client MSI properties: *ConfigApplyPreferencesOnlyForQueueNames*, *ConfigApplyAllSettingsForQueueNames*, *ConfigApplyPreferencesOnlyForModels*, *ConfigApplyAllSettingsForModels*. (TFS #10927, OTRS #406109)

Correction: When using the *BackupPrinters / ReinstallPrinters* feature on VDI clients, the "default printer" setting was not saved between sessions. (TFS #11425, OTRS #406241)

1.38 Client 20.0.0

Release date: 2015-03-30

Feature: Multi-language support expanded with six Asian languages: Chinese (trad.), Chinese (simplified), Japanese, Korean, Thai, Vietnamese. (TFS #9638)

Enhancement: Improved handling of driver .cab archive downloads. If an archive becomes corrupt during transfer, download can now be retried at next install attempt. (TFS #8224, OTRS #405226)

Correction: Removed client dependency on Spooler service, to prevent the client service from being stopped by Windows Update. (TFS #10838, OTRS #406047)

1.39 Client 13.3.3

Release date: 2015-03-27

Resolved an issue affecting printer hardware configuration settings when queues were updated with bidirectional communication enabled. New client MSI properties: *ConfigApplyPreferencesOnlyForQueueNames*, *ConfigApplyAllSettingsForQueueNames*, *ConfigApplyPreferencesOnlyForModels*, *ConfigApplyAllSettingsForModels*. (TFS #10927, OTRS #406109)

1.40 Client 13.3.2

Release date: 2015-03-16

The client installation process could modify port monitor settings for other (non-Cirrato) software if the client had bidirectional communication enabled. (TFS #10715, OTRS #406015)

1.41 Client 13.3.1

Release date: 2015-01-30

Enhancement: If CirratoSearch is running hidden behind another window and the user tries to start a new instance of it, the active window comes in focus and appears. (TFS #9925)

CirratoSearch: Removed misleading “not responding” message that could appear in the “Installing – please wait” pop-up during printer installation. (TFS #3059, OTRS #403561)

Resolved an issue that would cause long delays in clients using bidirectional communication, if a printer became unreachable. (TFS #10456)

1.42 Client 13.3.0

Also included with the re-packaged server release 13R1EP2HF2.

Release date: 2015-01-15

Feature: The 13.3.0 client includes a new bidirectional port monitor, enabled through a single MSI property setting (BIDIPOINT=1), that enables bidirectional communication for new and existing queues. (TFS #6695)

Modifications of CirratoSearch *Install/Uninstall* button behavior, right-click menus and keyboard shortcuts, for improved usability when multiple printers are selected. (TFS #9237)

CirratoSearch: Corrected an issue that made it possible for an uninstalled printer to be set as default printer. (TFS #9237)

Cleanup of extraneous items in CirratoSearch right-click menus. (TFS #9237)

Corrected error that made *Location* and *Comment* columns in CirratoSearch printer list not populated at startup when LISTINSTALLEDPRINTERS=1. (TFS #7977, OTRS #405256)

1.43 Client 13.2.4

Released as “HFSSAB”, a hotfix on client 13.2.3. Includes *CirratoInventory*.

Release date: 2014-12-03

Fixed client crash issue that would appear when migrating a shared printer that had multiple ports (due to printer pooling on the print spool server). (TFS #9947, OTRS #405868)

1.44 Client 13.2.3

Released as “13R1EP2HFMS”.

Release date: 2014-11-14

CirratoSearch: When a region/location scope has been defined with the *OULocationString* setting, and *OUREstrict* is enabled, it is now possible to browse items below the defined

region/location in the region tree. (TFS #9559)

Column widths do not change when the CirratoSearch window is resized. Users can still resize columns manually. (TFS #9559)

To avoid confusion, a user can no longer open multiple instances of CirratoSearch on one client PC. (TFS #9559)

Two collapsed columns in the CirratoSearch results table have been removed. (TFS #9237)

1.45 Client 13.2.2

Release date: 2014-10-27

Enhancement: Modifications of CirratoSearch *Install/Uninstall* button behavior, right-click menus and keyboard shortcuts, for improved usability when multiple printers are selected. (TFS #9237)

Correction: CirratoSearch: Corrected an issue that made it possible for an uninstalled printer to be set as default printer. (TFS #9237)

Correction: Cleanup of extraneous items in CirratoSearch right-click menus. (TFS #9237)

1.46 Client 13.2.1

Release date: 2014-09-25

Correction: When printing using the LPR protocol, the first job could sometimes fail to print if the printer was in Power Save mode. Changed: new default LPR timeout settings. New client MSI properties: *PrintSendTimeout*, *PrintCloseSocketTimeout*, *PrintLPRProtocolSendTimeout*, *PrintLPRProtocolReceiveTimeout* (TFS #8051, OTRS #405163 405225)

Correction: Client billing issue: If several jobs were submitted in quick succession and a billing code set on each, only the first submitted job would get the code. (Includes changes in both client and server 13.2.4 (release 13R1EP2HFR).) (TFS #8221)

Correction: Advanced client billing: When setting an expiry time on a billing code, the code would not be set on the print job that triggered the client billing dialog. (Includes changes in both client and server 13.2.4 (release 13R1EP2HFR).) (TFS #9089)

1.47 Client 13.2.0

Release date: 2014-07-24

Feature: Added support to properly report OS version for Windows Server 2012 R2 and Windows 8.1 when installing queues and printing. (TFS #6818)

Feature: Added support for auto-populating CirratoSearch with printers on startup, based on a pre-set search string. New MSI properties: *ListInstalledPrinters* (set to 1 to retain old behavior), *AutoSearch*, *SearchString*. (TFS #7016)

Enhancement: Improved crash dump behavior. Client service will only create a dump file if at least 5% disk space is available, creates max 1 dump per second, and will not log to event log when every job is deleted from client PC after print. (TFS #8102)

Correction: If authentication was disabled, *authuser* and *authdomain* in *tbl_client_session* were not set; this affected client billing if an invalid billing code was used. Sessions are now set to "authenticated" when authentication is disabled and a job is submitted. (TFS #7173)

Note: This does not work when manually initiated client billing is used before printing (nor when authentication is enabled).

1.48 Client 13.1.6

Release date: 2014-05-05

Feature: Queue backup/restore for clients in VDI environments. Locally installed queues are saved to HKCU upon logout and reinstalled when the user logs back on. New MSI properties: *BackupPrinters*, *ReinstallPrinters*. (TFS #5793)

Feature: Client supports temporary anonymous sessions for guest printing. New MSI property: *RequestGuestPrint*. (TFS #6517)

Feature: Client message box dialogs now support embedded HTML links. (TFS #6757)

Enhancement: When client changes IP due to new DHCP lease, the client session is now refreshed instead of a new session created. (TFS #6517)

Enhancement: Enabled crash dump support for STATUS_INVALID_CRUNTIME_PARAMETER errors in client. (TFS #7059, OTRS #404753)

Enhancement: Removed function in CirratoSearch: double-click printer to uninstall. (TFS #7089)

Correction: Addressed compatibility issues with Windows XP x64. (TFS #7195, OTRS #404797)

1.49 Client 13.1.3

Included with the server releases 13R1EP1.1 and 13R1EPX.

Release dates: 2013-11-06, 2013-12-18

Correction: Client service modified to facilitate printer migration in Novell environments. (TFS #5217)

Correction: Corrected issue that caused migration with printer IP-based schemas to fail.

(TFS #5489)

Correction: Corrected issue that would make migration of default printer occur more than once. (TFS #5541; OTRS #404363)

1.50 Client 13.1.1

Release date: 2013-09-16

Correction: Sorting by column in CirratoSearch fixed. (TFS #2714; OTRS #403611)

1.51 Client 13.1.0

Release date: 2013-07-15

Feature: Added support to load resource DLLs for displaying different languages in GUI, menus, and messages. (TFS #1030 #1115)

Feature: For reasons of multi-language support, client registry strings for message captions/texts are empty by default (if no strings are entered, values from language-specific resource DLLs are used). (TFS #1115)

Feature: Added support for migrating Novell iPrint printers. (TFS #3614)

Correction: Client locale setting “auto” is now case insensitive. (TFS #1008, OTRS #401838)

Correction: Resolved timing issue that made logging of jobs sent to local printers not work under Windows 8. (TFS #1241)

1.52 Client 2011.2.200

Release date: 2013-06-13

Enhancement: TCP packaging COM protocol fix; likely to resolve various issues previously believed to be related to latency or packet loss.

MSI settings *Retries* and *HandoverGetAck* defaults changed to 0 (disabled). (TFS #1783)

1.53 Client 2011.2.112

Release date: 2013-04-18

Feature: Client service modified to include Windows separator page filenames (the path %WINDOWS%\System32 is assumed) in printer configurations. (TFS #2713)

1.54 Client 2011.2.103

Release date: 2013-03-18

Feature: To enable 3rd redundancy support in VDI environments, information on previously used valid printers is now stored in registry keys both under HKEY_LOCAL_MACHINE and under HKEY_CURRENT_USER. (TFS #2427)

1.55 Client 2011.2.102

Release date: 2012-10-31

Added logging of communication failures.

New registry settings: *LogError* (default 1), *LogWarning* (default 0), *LogInformational* (default 0).

Logging added mostly to *sendPrintRequest()*, *sendPrintSpoolDone()*, *getTicketTimeEstimate()*, *sendHandOverTicketFile()*, *getHandOverTicketFile()*

Power user permissions removed when installing printer queues.

The client could crash if the wrong password was entered at user/password authentication.

30 second timeout added for SNMP status “other” – SNMP scan failed when print jobs in progress were canceled on MFP display.

90 second timeout added for SNMP status “warmup” – SNMP scan failed if printer entered warmup status when printing.

Correction: Memory leaks addressed.

1.56 Client 2011.2.100

Release date: 2011-06

CirratoSearch accessibility modifications for NVDA screen reader added.

Support for Shift-F10/application key to invoke the context menu. Install using context menu. Install/uninstall/setdefault result texts now include the printer name.

Registry entry *ProductVersion* changed to be set independently instead of by the PRODUCTVERSION property.

Added HKLM/HKCU registry setting *UILanguage*. Defaults to 0 = autodetect. (1053=Swedish, 1036=French, 1043=Dutch, 1033=English).

HKCU setting overrides HKLM setting,

createsession client → server; communication retry delay was 5s, changed to 10 retries with 5s delay, 10 retries with 10 second delay, 10 retries with 1 minute delay, then 5 minute delay between retries forever.

Added Cirratosrv crash dump functionality – when a crash happens, writes message to event

log and dumps memory to file. Can be used to perform debugging.
New registry setting: *MdumpType*. Defaults to 0x00000201 (513) which is *MiniDumpWithPrivateReadWriteMemory/MiniDumpWithDataSegs*

Spooler service dependency is now optional.
The MSI property *DEPENDENCY* defaults to "SPOOLER". If set, the client service checks that the spooler is running at service startup.

Retries added for communication protocol calls *PrintRequest*, *PrintSpoolDone* and *handoverresult*.

New registry setting: *Retries* (defaults to 3). Number of retries when encountering communication errors, both on connect and data transfer for the above calls. There is a 500ms delay before the first retry, the delay is then doubled each time.

New registry setting: *HandoverGetAck* (requires server 2011R2 rev. 3730 and later). Enables the server to reply to the client with an ack that the handover result has been received, enabling the client to retry that communication if no ack is sent.

Added logging of communication failures.

New registry settings: *LogError* (default 1), *LogWarning* (default 0), *LogInformational* (default 0). Logging added mostly to *sendPrintRequest()*, *sendPrintSpoolDone()*, *getTicketTimeEstimate()*, *sendHandOverTicketFile()*, *getHandOverTicketFile()*

Power user permissions removed when installing printer queues.

CirratoSearch error messages improved with more detailed message texts.

Help function in *cirrato.exe* modified. There is now separate help texts for each command.

French translation added in the context menu.

Removed *cirratosrv MessageBox* function call from client service, in order to avoid Application Lifecycle Management tools to issue a warning.

CirratoPak keys with no values under *PrinterDriverdata* caused crash, whether they had subkeys or not. Only affected reading of configuration, not restoring.

1.57 Client 2011.2.1.0

Added accessibility improvements for the client billing dialog.

CirratoSearch: Added accessibility modifications for NVDA screen readers:

- Support for shift-F10 / application key to to invoke the context menu.
- Install using context menu.
- Hidden labels to assist screen reader applications.
- Install/uninstall/setdefault result texts now include the printer name.
- Other minor changes that makes screen readers work better.

1.58 Client 2011.2.0 (2011R2)

Release date: 2011-12-21

MSI file name and service name now include the word "Client" (the short service name used with "net start" is still just "Cirrato").

InstallDir now defaults to *C:\<program files>\Cirrato Technologies\Cirrato Client*

Added manifest file that disables registry virtualization (VirtualStore).

Added manifest file for Novell build.

Logging during Novell username lookup added
(*[HKLM\SYSTEM\CurrentControlSet\Control\Print\Monitors\Cirrato\Log]* must be set to 1).

Tray icon menu item "Logout Cirrato session" removed when user is not logged in.

Support for clientIP parameter added in EUT_API.

Added registry-only settings *alwaysSendDriverID* and *alwaysSendConfigID* to prevent driver/config updates on servers.

Added MSI property DELETEONNOCONTACT – corresponds to the port monitor registry setting *DeleteOnNoContact*.

If *DeleteOnNoContact=0* and *PreSpoolCheck=1*, jobs are not deleted in port monitor but instead retained by the spooler when there is no print service contact, *or* when there is no server contact and redundancy mode is disabled (=2).

Added multiple client identifier methods used to keep track of client IP changes at the server. (determined by the client service).

Registry setting: *[Cirrato\ClientUniqueIdList]* – a semicolon-separated list with the possible values CDASID;MSID;MGUID;CREATED;NONE. The first value that the client service can look up in the list will be used.

When client identifier is set to NONE, no session (IP) updates will be sent.

Added spoolpath read/write test. Client will retry reading spoolpath at service startup for 30 seconds; if the test fails, it will terminate and write an entry (with the spoolpath specified) to the event log.

Accessibility modification added for CirratoSearch.

Added keyboard shortcuts *alt-d* (set default printer), *alt-i* (install/uninstall), and *alt-p* (display printer properties).

If *[HKLM\SOFTWARE\Cirrato\OULocationString]* is set to "HKEY_CURRENT_USER", *[HKCU\Software\Cirrato\OULocationString]* is read instead.

Driver directory now defaults to *CommonAppDataFolder\Cirrato Technologies\Cirrato Client\driverpackages*. Driver archives downloaded by older client versions will remain in *CommonAppDataFolder\Dipritec\Cirrato\driverpackages*.

Reading of spoolpath will now be attempted for 60 seconds after service startup (in addition to attempts for 30 seconds during startup) before terminating with a log entry to the event log. Service Control Manager will see the client service as started during this time, while Cirrato applications attempting to access the client service will report the service as not running.

Added write/read-ability checks on sockets when printing. Default settings (in seconds) are:

PrintSendTimeout: 3600

PrintLPRProtocolSendTimeout: 10

PrintLPRProtocolReceiveTimeout: 10

PrintCloseSocketTimeout: 3600

If set to 0, the default settings are used. `0xffffffff` disables and reverts to the old behavior. They can be set as registry values but are not part of the MSI package.

Start of heartbeat thread moved to after LPR handshake.

Heartbeats changed to be sent every 30 seconds, instead of 2 seconds.

Dutch translation added to PIN code dialog.

Added verification that spooler is running before printer installation (to avoid deleting printer registry entries upon assumption that the printer is not installed). If not verified within 30 seconds, the installation will fail and an entry written to the Windows event log.

Added verification that spooler is running before continuing startup (will log to event log if >5s, will terminate if >30s). This resolves an issue where the spooler does not always respond immediately after a client installation, resulting in upgrades from client 2.0.19 to not add individual ports for each printer queue.

Changed registry read methods to correct an error where the client stopped working if `queueUUID` / `cirratoUUID` would disappear (possibly deleted by the printer driver).

Fixed error that caused Novell username lookup to fail.

Large memory leak in client-side redundancy com protocol function fixed.

Note: The fix does not change the protocol, no new server is needed.

Fixed memory leak due to failure to call C++ destructors in worker threads.

Fixed com protocol issue where browsing regions with many subregions could cause a crash.

Corrected tray icon behavior. Under certain circumstances, double-clicking the icon would start Client Billing even though it was supposed to start CirratoSearch.

`/delete -all` did not work when *FollowPrintList* registry entries existed, which caused hundreds of `EPA_UNINSTALL_QUEUE` messages to the server.

Fixed display of *cirrato.exe* help under Windows 7.

1.59 Client (2.0.0R16P8.6)

Release date: 2011-06

Pin code dialog added.

Reduced window animations when displaying message box, plain text authentication, client billing, PIN code and redundancy dialogs.

Dutch translation added for Follow Print redundancy dialog and right-click menu.

The command `migrate -local` renamed `migrate -normal`.

Username, jobname, and LPR jobID can now be sent from server and included in LPR print header. (When server sends LPR jobID=-1, the client will generate the ID as before.)

CirratoSearch will now match last selected to last available parent region in case region was deleted on server.

Installed printers shown in CirratoSearch at startup. (If hooked printers are shown, they can be unhooked through CirratoSearch.)

Registry setting: [*Cirrato\ShowHooked*] [DWORD]

Resize support added in CirratoSearch.

Follow Print redundancy printing with queue selection added.

MachineGUID now sent with CirratoClient sessions and print jobs. These can be used by the server to identify the client computer and keep track of it if its IP changes.

To reduce latency problems, *CirratoSearch* queries to server for getting regions have been reduced.

Corrected error that would make *cirratoclient.exe* crash when the server sent too long balloon tip caption or message.

Error in update of existing entries in redundancy list corrected.

Corrected error where *cirratosrv.exe* would save *LastAccessedTimeStamp* as an invalid QWORD (though significant bytes were saved/read).

Resolved problem with `migrate -unc`; would cause "Unknown reply recieved from client service" if run without `-local` or `-cirrato`.

Resolved problem with registry virtualization. Previously, updates to follow-print redundancy lists did not effectually work.

Error that would let *cirratosrv.exe* call *CirratoClient* before writing follow-print lists to registry, corrected.

Corrected error with *PreSpoolCheck* when set to zero.

Corrected error in *cirratoport.dll*; it could crash if *notifyname* was NULL when printing to printers shared from a client to a Terminal Server session.

Corrected erroneous *CirratoSearch* behavior when doing selected region matching for opening dialog.

1.60 Client (2.0.0R16P8.5)

Release date: 2011-02

Added registry setting: [*Cirrato\RemoveLocalPrinterRights*] [dword], default = 1
If set to 0, local printer rights are not removed when hooking them, and print jobs in the local Windows queue will not be deleted at *Cirrato* service shutdown.

Local print jobs that are deleted locally are now logged as “not found” on client. (This can only happen when *RemoveLocalPrinterRights* is set to 0.)

Added support for setting per-user devmode (printer preferences) on login.

Service will now be set to interact with desktop both in 32-bit MSI and by the service if Windows XP or Server 2003 / Server 2003 R2.

The x64 MSI package does not do this, so x64 XP / Server 2003 will get this setting changed when the service starts, but it will not be valid until the service starts the second time.

Fixed error that caused redundancy printing to not work on hooked printers.

Fixed local printer issue: Some HP drivers would cause jobs to stay in the local printer queue with status "Sent to printer", so when the spooler was restarted the jobs were printed again. Deleting leftover jobs now happens at service shutdown and at unmigrate/unhook (which deletes all jobs in the local queue).

When a rule said to delete a job, the client would print it in redundancy mode.

Fixed local printer issue: Job spooling finished detection changed; it could sometimes miss local downlevel non-printjob printjobs when they finished spooling.

With some drivers / operating systems, only one print job would print on hooked printers because of a failure to pick up on when a print job was printed (the server would then not send print commence on any following jobs on that printer).

Hook failed after boot on x64 Windows 7.

1.61 Client (2.0.0R16P8)

Release date: 2010-10

Support for multiple ports added, one per installed queue.

Clients now able to perform DNS lookup themselves, reducing load on the server database.

Client handover preference (auto, preferred, declined) is submitted to the server.

Registry value: [*Cirrato\HandOverPreference*] [dword]

Implemented client ability to ask the server whether jobs should be deleted, to prevent jobs that the server regards as deleted from being left on the client.

Registry value: [*Cirrato\jobExistOnServerCheckAge*] [dword]

Timestamp support added. *Cirratosrv.exe* can send TTL, CBcode and extraOptions to the server when used with *submit_job.dll*. The server can then use this information to supply timestamps for ticket creation.

Client authentication optimized in regard to performance. Encryption keys are created only when using “plain text” or “mixed mode” authentication.

Added switch in *cirrato.exe*: */cleanup* – deletion of unpacked drivers, deletion of empty driver storage directory on service shutdown

Added options for *cirrato.exe /delete*:

<i>-daysold x</i>	auto-delete printers that were not printed to in <i>x</i> days
<i>-noautodelete -name <printer name></i>	flag a printer (name) to not be auto-deleted
<i>-noautodelete -uuid <UUID></i>	flag a printer (UUID) to not be auto-deleted

Timeout changes: Timeout when submitting jobs through *eut_api_1_0.dll* changed to 8s (default is 4s). All connection timeouts set to 8s, except normal printing requests at 4s. *sendPrintRequest* and *sendPrintSpoolDone* calls are retried once with a 50ms delay if the first attempt fails, to alleviate a problem with print jobs not being submitted to the server.

Support added for plain text authentication on guest accounts.

Kerberos HKLM check now also checks 64-bit registry.

Cirrato Search feature added in MSI package, to enable the option to not install the *CirratoSearch.exe* binary.

CirratoSearch can be started from the tray icon menu.

Tray icon and Client Billing menus available in Swedish. Tray icon menu is shown by default.

Client version is displayed at telnet connection to client (when pressing the *Enter* key twice).

Added “host down” and “host unreachable” answers on *sendPrintingCommenced()*.

Changed behavior: Client service will start and then stop if *bind to listen port* fails.

Novell client version: Novell user true/false, reported from the port monitor, is submitted to the server (*EUserType*).

Cirrato ports now have registry entries corresponding to Microsoft "Standard TCP/IP Port" for values such as *IPAddress* and *SNMP Enabled*.

Installed printers with Cirrato port will now be migrated to unique ports at first service start.

Handover points receive *configureService()* only upon the first service start (as with non-handover point clients) instead of every start.

Psworker: DSC parsing changed to ignore newline characters (PostScript files can mix different newline character types in the same file). Improved DSC parsing handling of long lines, such as embedded binaries.

SearchAndReplace method added, used to create a temporary file with all DCTDecode use removed, on which all subsequent parsing is performed.

MagickWrapper class changed to read one image at a time from file, reducing memory footprint.

Improved client error messaging upon failed printing attempts.

Improved logging and disabled named pipe call if queue is not a Cirrato queue.

Improved statistics where the server saves information on the number of printed pages, and the number of copies of those pages, separately in the database.

Resolved a timing problem where print jobs could be asked to be printed/deleted/etc. by the server, before the client knew they existed. Job files are now renamed ".x" upon initial server contact, to prevent timing issues.

Corrected error with *clearDevMode* not using x64 registry delete function.

Corrected error that would cause deleted regions to remain visible in the web GUI.

Corrected erroneous behavior where, after a crash, jobs loaded from hard drive would print repeatedly until TTL.

Corrected error where clients would send files or drivers to handover points that already had them.

Resolved problem in *CirratoSearch* where the OU match string would be displayed as blank if the computer was in exactly one OU.

Resolved file handle issue where sending of handover files could cause a crash at high load.

Monitorjobs memory footprint reduced.

1.62 Client 2.0.18

Release date: 2010-02

Forced configuration regardless of user level. Added feature to control configurations on end client workstations regardless of administrative level. If this feature is set, Cirrato will revert any configuration settings made by the end user to the default configuration set by the server. Registry value: [*Cirrato\clearDevMode*] [DWORD] (default 0)

Permissions are now set to default on printers when installing.

New registry setting, used for plain text authentication:

[*HKCU\HKLM \SOFTWARE\Cirrato\PlainTextAuthDomain*] [STRING]

If *TrayIconMode=1*, these settings are now required:

ShowTrayMenuLogout, *ShowTrayMenuClientBilling*, *ShowTrayMenuSelfService*

Client Billing functionality. Fix to control if the Client Billing browse functionality should be visible for the end user.

Registry value: [*Cirrato\ClientBillingBrowse*] [DWORD]

Cirrato Handover point failure/crashes: Fixed an abnormality if the handover point cannot connect to server during a print job handover.

Fixed an error regarding Cirrato server resending print commence if client/handover point lose connectivity to the Cirrato server.

It is now possible to delete a job in printing mode without forcing a handover point crash.

1.63 Client (2.0.0R16)

Release date: 2009-04

Balloon tip messages added to the Cirrato client (error notifications etc. displayed to the end user).

New Postscript parser added to the client.

Pre/postinstall functionality added to the Cirrato client.

Load balancing added on handover point clients.

Cirrato client icon no longer disappears if explorer is restarted.

1.64 Client (2.0.0R15)

Release date: 2009-02

64-bit Cirrato client added.

Time Estimate functionality added in the redundancy mode (settings) to make sure jobs already in the system will be printed.

Client changelogs older than 2009 are considered outside the scope of this document.